



STX-RLINK

Raisonance's in-circuit debugger/programmer for STM8, ST7, μ PSD, STM32, STR7 and STR9

Data Brief

Features

- In-circuit debugging and programming
- Connection to application board via JTAG standard, or ST SWIM or ICC connection
- USB interface to host PC
- Powered from USB

Description

The RLink (STX-RLINK) is Raisonance's versatile, low-cost, in-circuit debugger and programmer for a complete range of STMicroelectronics microcontrollers (STM8, ST7, μ PSD, STM32, STR7 and STR9). It connects to application or evaluation boards for in-circuit programming and debugging via an industry standard JTAG connection for ARM® core-based and μ PSD microcontrollers, via STMicroelectronics' SWIM connection for STM8, or via an in-circuit communication (ICC) connection for ST7 microcontrollers.

The RLink, driven by Raisonance's Ride7 integrated development environment provides both unlimited in-circuit debugging and programming of applications for STM8, ST7 and μ PSD. It provides in-circuit debugging of up to 32 Kbytes of code for STM32, STR7 and STR9, and unlimited in-circuit programming of applications for these devices.

In combination with Raisonance's free RFlasher7 programming software, RLink can also be used as a very-low cost, dedicated in-circuit programmer for STM8, ST7, μ PSD, STM32, STR7 and STR9 microcontrollers.



The RLink does not include trace support for ARM® core-based devices with Embedded Trace Macrocell™ such as STR9. Tools with trace capability are available in the STR9 Professional Developer Kit from Raisonance (STR9-DK/RAIS) with Signum JTAGjet, and in the STR91x Advanced Developer's Kit from IAR (STR91X-DK/IAR) with J-Trace.

Architecture

RLink - Raisonance's in-circuit debugging and programming tool supports SWIM, ICC and JTAG protocols and connects to your application board via one of three adapters which provide the following connections:

- 10-pin ICC adapter for ST7, and a 4-pin SWIM adapter for STM8
- 14-pin JTAG adapter for μ PSD
- 20-pin JTAG adapter for STM32, STR7 and STR9

C compiler toolsets - Raisonance provides C compilers tailored to the complete range of supported microcontroller families. Compilers are fully optimizing and seamlessly integrated into Ride7, eliminating the need to edit complicated scripts and maximizing ease of use. Toolsets include:

- **Raisonance C compiler** for STM8 and ST7 (Rkit-STM8) features zero-page auto relocation for code size and performance optimization that is tailored to the architecture of these devices. The compiler chain is available from Raisonance in a free version that outputs code up to 16 Kbytes in size.
- **Raisonance RC-51 compiler** supports μ PSD and other 8051 core-based microcontrollers. The compiler tool chain is available from Raisonance in a free version that outputs code up to 4 Kbytes in size.
- **Raisonance GNU C/C++ compiler** supports the full range of ST ARM® core-based microcontrollers in the STM32, STR9 and STR7 families.

Raisonance's software - RLink can be driven by Raisonance's integrated development environment (Ride7) or by other tools such as RFlasher7, some inline programming applications and ST tools (STVD and STVP).

- **Ride7** - Drives the RLink and offers seamless control of software development tools (project manager, editor, compiler, assembler, linker, debugger, etc.) from an intuitive graphical interface.
It offers full integration of the relevant C/C++ toolsets, project management, code editor and SIMICE instruction set simulator.
The **RBuilder** feature allows users to rapidly configure device peripherals in a GUI and generate the C source code for peripherals at the click of a button, without writing a single line of code.
The optional **CodeCompressor** allows post-link optimization of the entire applications code using optimizations like in-lining, factorizing and peepholing, which can reduce application code by 5 to 15%.
- **RFlasher7** - Raisonance's easy-to-use device programming interface drives RLink and allows users to erase, program, view and verify microcontroller memory. RFlasher7 also includes automated mode for automatic execution of programming sequences for mass programming and project mode that allows users to save their programming configurations. In this operating mode, tasks such as:
 - Flash memory erasing and programming
 - Flash or RAM memory dumping
 - Blank check, programming verifications
 - Mass programming processbecome intuitive and can be achieved with only a few clicks.

Ride7 integrated development environment

All packages include:

- Free downloads of evaluation versions from www.raisonance.com
- Free **RFlasher7** programming software
- Color syntax highlighting editor
- Project manager
- High-level language debugging

Ride7 for STM32, STR7 and STR9

- GNU C/C++ toolset for ARM
- **SIMICE** simulator
- Available in free evaluation version that includes the unlimited GNU C/C++ compiler.

Ride7 for μ PSD

- RC-51 ANSI C compiler
- **SIMICE** simulator
- Available in free evaluation version with 4KB code-size limited version of the RC51 compiler, unlimited debugging.
- Supports **softExpress** for configuration of μ PSD microcontrollers
- Supports **CodeCompressor**, Raisonance's optional post-link code optimizer. Applies optimizations such as inlining, factorization and peepholing

Ride7 for STM8 and ST7

- Raisonance STM8/ST7 C compiler
- **SIMICE** simulator
- **RBuilder** application builder for quick, easy configuration of peripherals and generation of associated application source code (requires use of a C compiler).
- Supports **CodeCompressor**, Raisonance's optional post-link code optimizer. Applies optimizations such as inlining, factorization and peepholing.
- Available in free evaluation version with unlimited debugging.

Ordering information

Raisonance development tools can be ordered from Raisonance or from your nearest ST Distributor or sales office.

When ordering the RLink from ST, use the order code STX-RLINK.

For more information, documentation and downloads, please refer to www.raisonance.com. For supported microcontrollers refer to www.raisonance.com or the STMicroelectronics microcontroller support site, www.st.com/mcu.

Revision history

Table 1. Document revision history

Date	Revision	Changes
01-Dec-2005	1	Initial release.
08-Feb-2006	2	Corrected to indicate in-circuit debugging capabilities and Code Compressor for ST7
20-Jun-2006	3	Added STR9 microcontroller family to supported devices
30-Jun-2008	4	Added STM8 and STM32 microcontroller families to supported devices and reformatted the document

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